PARALYTIC SHELLFISH POISONING

DISEASE REPORTING

In Washington

DOH receives approximately 0 to 9 reports of paralytic shellfish poisoning (PSP) per year. A DOH 24-hour hotline (1-800-532-5632) lists shellfish harvest areas open and closed because of marine biotoxins.

Purpose of reporting and surveillance

- To identify sources transmission (e.g., a commercial product or public fishing area) and to prevent further transmission from such sources.
- To identify others who shared the exposure and provide counseling.
- When the source is a risk to only a few individuals (e.g., privately collected shellfish), to inform those individuals how they can reduce their risk of exposure.

Reporting requirements

- Health care providers: **immediately notifiable to Local Health Jurisdiction**
- Hospitals: **immediately notifiable to Local Health Jurisdiction**
- Laboratories: no requirements for reporting
- Local health jurisdictions: **immediately notifiable to DOH: 1-877-539-4344**

CASE DEFINITION FOR SURVEILLANCE

Clinical criteria for diagnosis

Onset of neurological symptoms (paresthesias, ataxia, cranial nerve abnormalities, paralysis, etc.) with or without gastrointestinal symptoms within minutes to hours following consumption of shellfish.

Laboratory criteria for diagnosis

- Identification of saxitoxin in epidemiologically implicated food, or
- Identification of high levels of dinoflagellates associated with shellfish poisoning in water from which epidemiologically implicated shellfish were gathered.

Case definition

- Probable: A case that meets the clinical case definition, is not laboratory confirmed or epidemiologically linked to a confirmed case.
- Confirmed: A case that is laboratory confirmed, or that meets the clinical case definition, is not laboratory confirmed, and is epidemiologically linked to a confirmed case.

A. DESCRIPTION

1. Identification

Classic PSP is a syndrome of characteristic symptoms (predominately neurologic) with onset within minutes to several hours after eating bivalve molluscs. Initial symptoms include paresthesias of the mouth and extremities, frequently accompanied by GI symptoms. Symptoms usually resolve within a few days. In severe cases, ataxia, dysphonia, dysphagia and total muscle paralysis with respiratory arrest and death occur. In a retrospective review of PSP outbreaks that occurred in Alaska between 1973 and 1992, 29 (25% of 117 ill persons) required an emergency flight to a hospital, four (3%) required intubation, and one died. Recovery is complete, symptoms usually resolve within hours to days after shellfish ingestion.

This syndrome is caused by the presence in shellfish of saxitoxins produced by *Alexandrium* species and other dinoflagellates. Concentration of these toxins occurs especially during massive algae blooms known as red tides, but can also occur in the absence of a recognizable algal bloom. PSP is particularly common in shellfish harvested from colder waters above 30N and below 30S latitude, but may occur in tropical waters as well. In the US, PSP is primarily a problem in the New England states, Alaska, California, and Washington. Blooms of the causative *Alexandrium* species occur several times each year, primarily from April through October. Shellfish become toxic and remain toxic for several weeks after the bloom subsides; there are also some shellfish species that remain toxic constantly. Most cases occur in individuals or small groups who gather shellfish for personal consumption. Diagnosis is confirmed by detection of toxin in epidemiologically implicated food. On an experimental basis, it has been possible to demonstrate saxitoxins in serum during acute illness and in urine after acute symptoms resolve.

PSP neurotoxins are heat stable. Surveillance of high risk harvest areas in the US is routinely conducted by state health departments, by using a standard mouse bioassay; areas are closed to harvesting when toxin levels in shellfish exceed 80 µg/100 g. When toxin levels exceed this value, warnings should be posted in shellfish growing areas, beaches and in the media.